

## MINIATURE RESONATING MARKER ASSEMBLY

### ABSTRACT OF THE DISCLOSURE

A miniature resonating marker assembly that includes, in one embodiment, a ferromagnetic core, a wire coil disposed around the core, and a capacitor connected to the wire coil adjacent to the magnetic core. The core, coil, and capacitor form a signal element that, when energized, generates a magnetic field at a selected resonant frequency. The magnetic field has a magnetic center point positioned along at least one axis of the signal element. An inert encapsulation member encapsulates the signal element therein and defines a geometric shape of the resonating marker assembly. The geometric shape has a geometric center point substantially coincident with the magnetic center point along at least a first axis of the signal element. The shape and configuration of the assembly also provides for a miniature signal element specifically tuned to resonate at a selected frequency with a high quality factor.